THE THOROUGHBRED HORSE.[1]

THE re-discovery of the so-called *Equus przewalskii*, or Mongolian wild pony, has during the last few years awakened renewed interest in the puzzling question of the origin and ancestry of our domesticated breeds of horses and their relations to their wild or semi-wild representatives, and workers on both sides of the Atlantic have been doing their best, with results more or less satisfactory (at least to themselves), to solve the problem. The subject, like an apparently impregnable fortress, has been attacked from several sides at once, in the hope that if one plan fails another may succeed; and while one worker has endeavoured to solve the mystery by the study of apparently vestigial structures, a second relies on cross-breeding, while a third believes that external characteristics are alone sufficient to decide the question. Prof. Ridgeway, on the other hand, has primarily attacked the problem from the point of view of the historian and the archæologist, and it must be acknowledged that naturalists owe him a large debt

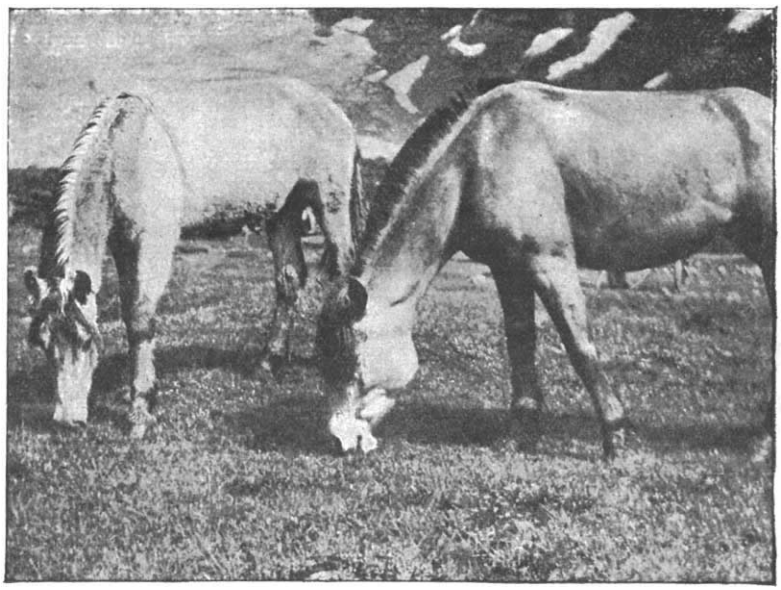

FIG. 1.—Norwegian ponies, as examples of the typical dun type of the horse. From Ridgeway's "The Thoroughbred Horse."

of gratitude for bringing into prominence lines of evidence with which, from the very nature of the case, they are unfamiliar. Apparently, however, the author soon discovered that salvation was not to be found from archæological investigations alone, and that it was essential for him to enter in some detail into the natural history of *Equus caballus* and its allies. To one who has thus been compelled by force of circumstances to enter on paths of study other than his own, tender treatment should be accorded by the critic, and especially should this be so in the present instance, when the author has called to his assistance at least two naturalists who have specially studied the Equidæ.

As regards the two introductory chapters on the horse family in general, a very large proportion has little or no bearing on the subject, and might advantageously have been omitted. As it stands, it is to a great extent inaccurate and misleading. If, for instance, the list of existing Equidæ on p. 12 be compared with the descriptions of species and races later on, numerous discrepancies will be found. As an example we may refer to the mention of the chigetai, or dzeggetai (*Equus hemionus*), and of the kiang (*E. hemionus kiang*) on pp. 44 and 45, and the complete omission of the former on p. 12, where the latter is quoted as *E. kiang*. The difference between species and subspecies is, however, a great stumbling block to the author, as may be inferred from p. 61, where it is stated that "certain zebras have been made into subspecies by some, though there is no evidence that they are more than local races," and we are left in pleasing uncertainty whether the wild Mongolian pony is a species by itself or a race of *Equus caballus*. In connection with this part of the subject, the omission of any reference to the present writer's latest paper (1904) on wild asses, when his earlier ones are quoted, is noticeable, as is also the statement (p. 143) that he has sought to establish a relation between the ponies of Java and Sulu and *E. sivalensis*. Perhaps too much is also made of the expression "an Indian domesticated horse" in reference to a certain skull (pp. 159 and 470) in the British Museum, which probably belonged to an imported animal. Strong exception must be taken to certain statements, even if they be quotations, connected with fossil Equidæ. It may or may not, for instance, be admitted that the horses of Asia and Europe have an American ancestry; but to state (p. 10) that *Equus stenonis*, the earliest European fossil horse, was one of the earlier immigrants, and that while this species "was extending its range into Europe and Africa, two others, *E. sivalensis* and *E. namadicus*, were finding their way into India," is neither more nor less than nonsense, more especially since the Indian *E. sivalensis* is at least as old, if not older than any known American true horse!

It is time, however, to take into consideration the author's views as to the chief existing types of horses, which appear to be as follows:—First of all we have the "typical horse," that is to say, *Equus caballus typicus*, which we presume must be taken to be the ordinary Scandinavian pony (Fig. 1), although the author does not commit himself upon this point; secondly, the Celtic pony (*E. c. celticus*) of Iceland, the Hebrides, and other parts of north-western Europe; thirdly, the tarpan and Mongolian wild pony, which we may agree to call provisionally *E. c. przewalskii*; and fourthly, the Barb, Arab, and thoroughbred stock, for which the author proposes the name *E. c. libycus*. All the first three appear to be closely allied, and are typically small animals with large heads, short manes, and tails often imperfectly haired at the base, while their general colour is dun with black points. In temper they appear to be intractable, and when first domesticated they seem to have been broken to harness instead of for riding, and to have been controlled with the bit. The Norwegian pony is believed to have considerable intermixture of

[1] "The Origin and Influence of the Thoroughbred Horse." By W. Ridgeway. Cambridge Biological Series. Pp. xvi+535; illustrated. (Cambridge: The University Press, 1905.) Price 12s. 6d. net.

southern blood, and if we allow for this it may be asked whether there is sufficient justification for separating the "Celtic pony" as a distinct race, and whether both do not consequently come under the designation of *E. caballus typicus*. If he be right in identifying the original unaltered tarpan with the Mongolian wild pony (*przewalskii*), the author has done good service, as he certainly has in pointing out that the mouse-colour of the tarpan in the Moscow Museum is a sign of hybridism. Whether *przewalskii* might not also be included under the name of *E. c. typicus* is another question that may be left open.

Turning to the author's fourth type—the Barb, Arab, and thoroughbred—we find this standing out in marked contrast to all the above, so that in any case we have two main groups of domesticated horses. The Barb type, as it may be called for brevity, is a larger horse than the dun northern type, with a more delicate, although long, head, prominent nostrils, curiously sinuous profile, full and profuse mane and tail, a colour which appears to be typically bay, relieved frequently by a white star on the forehead and one or more white "stockings." The occurrence of a depression in front of the eye-socket (whether a remnant of the ancestral face-gland, or, as some suppose, a point for muscular attachment is immaterial) in the skull is admitted as a characteristic of this type. From their large size these horses were from the first used for riding, while their gentle disposition led to their being dominated by a nose-band instead of a bit. All the dark-coloured horses of Europe, notably the Shire horse, are believed to have a more or less strong infusion of Barb or Arab blood, which is, however, most predominant in the thoroughbred.

In thus dividing domesticated horses into two main types, the northern dun and the larger southern bay, Prof. Ridgeway will, we think, command the consent of most naturalists. Whether, however, he is right in regarding the full mane and tail of the Barb type as an original feature and not one largely due to domestication may be an open question. Doubt may be also legitimately entertained as to whether he is justified in making North Africa the birthplace of the bay type. In the first place, there arises a suspicion that he has been biased by a former theory (now happily abandoned) that the Barb type is the descendant of the Somali zebra (*Equus grevyi*). Putting, however, this aside, it may be pointed out that the author does not appear to give sufficient weight to the fact that true wild horses are utterly unknown in Ethiopian Africa, and that northern Africa is but a small outlying part of the Holarctic region, the fauna of which is to a great extent identical with that of southern Europe and western Asia. On these grounds, although we may admit that the true Barb was the earliest representative of the bay type to be domesticated, it seems extremely improbable that the ancestral, and now extinct, form of this race was confined to North Africa, while it is much more likely that it ranged over a large extent of south-western Asia in prehistoric times.

To follow the author in his extremely interesting survey of the spread and modification of the domesticated horse during historic times is unfortunately quite impossible within the limits of our available space, and we can only say that it will repay careful reading. The early existence of the Barb type is indicated by a figure of a Libyan woman riding one of these horses, taken from a vase dating between 664 B.C. and 570 B.C.

In conclusion, the present reviewer, who has been so largely quoted (and by no means in an altogether friendly spirit) throughout the work, may perhaps be permitted a few lines in which to explain his own views on certain points. In the first place, he is affirmed to have definitely assigned India as the birthplace of the bay or Barb type; but reference to the original article (*Knowledge and Scientific News*, August, 1904, p. 174) will show that he merely suggested the derivation of the "thoroughbred and eastern breeds generally . . . from an extinct Indian species, *E. sivalensis*." It is true that the expression "eastern breeds generally" is somewhat too extensive, but it was meant to apply primarily to Turks and Arabs; while as to *E. sivalensis*, the writer would be the last to suggest that its range was limited to India, and that it might not have had a wide distribution in Asia. In assigning the origin of the Barb type to this or an allied fossil species rather than to the European *E. stenonis*, which likewise presents a pre-orbital depression in the skull, the reviewer was influenced by the fact that the latter is definitely known to have been succeeded in the prehistoric and Pleistocene deposits of north-west Europe by horses which lack that feature. Moreover, if, as Prof. Ridgeway urges, the northern dun and the southern and eastern bay types are essentially distinct, what is more likely than that they should have been respectively derived from Pliocene types of which one is northern and the other eastern and possibly southern? As regards the main thesis—the existence of the two aforesaid main distinct types of domesticated horses—the reviewer is in perfect accord with the author of the work before him. R. L.

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ON Thursday, November 23, in his seventy-seventh year, this distinguished man passed quietly to his rest after a protracted illness of some months. His death removes from the University of Oxford one of its greatest personalities, whilst biological science, especially those branches immediately associated with medicine—physiology and pathology—has suffered an irreparable loss. The remarkable tribute contained in the *British Medical Journal* issued on December 2 shows the extent to which those who are now working at these subjects honoured and reverenced him as their master.

He was born at Jesmond, Northumberland, in December, 1828, being connected on both his father's and his mother's side with men of great distinction; the details of his ancestry are cited in Mr. Francis Galton's hereditary notes as one instance of those family histories which show extraordinary mental capacity or remarkable achievement distributed along the ancestral line. He was never at a public school, but was educated at home in that border county which he always loved, and throughout his life he manifested a special delight in sunlight, stretches of wild moor, mountain streams, rocks, heather, wild flowers, and wild birds. His powers of observation and the interest with which he regarded all natural objects were such that he might have become a great naturalist, but his bent was evidently towards medicine, and his parents, relinquishing their own bias for the legal profession, sent him to Edinburgh for a course of medical training. Goodsir and Hughes Bennett were then the professors of anatomy and physiology, and the latter seems to have exercised great influence on the future physiologist, turning his thoughts to cells and their living processes.

He soon showed some of those characteristics which stamp indelibly the scientific work of his life. Thus,